

XP-P5CM-GV/ XP-P5CM-GL

Intel® Pentium® 4 LGA775 Processor Motherboard

User's Manual

M-050501

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Terms of Use

To avoid unnecessary errors of operation, please consult the user manual prior to hardware installation. For more up-to-date information, please link to our company website at <http://www.xper.com.tw>

Prior to beginning installation procedures, please make sure that your computer turned off and is connected to a grounded power outlet. If your system is not turned off during installation, this could result in harm or damage to the motherboard, the components as well as to the user.

Declaration of Conformity

Via Manufacturer/Importer
 Gigatrend Technology Co., Ltd.
 Ausschäfer Weg 41, D-72537 Herbling, Germany
 declare that the product
 (description of the apparatus, system, installation to which it refers)
Motherboard
XP-P5CM-GV/XP-P5CM-GL
 is in conformity with:
 (reference to the specification under which conformity is declared)
 in accordance with 89/338/EEC (EMC Directive)

- | | | | |
|---|---|-------------------------------------|---|
| <input type="checkbox"/> EN 55011 | Limits and methods of measurement of radio interference characteristics of industrial, scientific and medical (ISM) radio frequency equipment | <input type="checkbox"/> EN 61008-2 | Disturbances in supply systems caused by household appliances and similar electrical appliances ("noise Emissions") |
| <input type="checkbox"/> EN 55013 | Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment | <input type="checkbox"/> EN 61008-3 | Disturbances in supply systems caused by household appliances and similar electrical appliances ("noise Emissions") |
| <input type="checkbox"/> EN 55014-1 | Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated apparatus | <input type="checkbox"/> EN 55024 | Information Technology equipment-Immunity Characteristics-Limits and methods of measurement |
| <input type="checkbox"/> EN 55015 | Limits and methods of measurement of radio disturbance characteristics of broadcast transmitters and facilities | <input type="checkbox"/> EN 50082-1 | Generic immunity standard Part 1: Radiated, commercial and light industry |
| <input type="checkbox"/> EN 55016 | Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment | <input type="checkbox"/> EN 50082-2 | Generic immunity standard Part 2: Conducted immunity |
| <input type="checkbox"/> EN 55020 | Immunity from radio interference of broadcast receivers and associated equipment | <input type="checkbox"/> EN 55014-2 | Immunity requirements for household appliances tools and similar apparatus |
| <input type="checkbox"/> EN 55022 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input type="checkbox"/> EN 50081-2 | EMC standards for uninterruptible power systems (UPS) |
| <input type="checkbox"/> DIN VDE 0825 part 10 | Cable distribution systems: Equipment for receiving signals from secured and television signals | | |
| <input type="checkbox"/> part 12 | | | |

CE marking



(CE conformity marking)

The manufacturer also declares the conformity of above mentioned product with the relevant important safety standards in accordance with LVD 73/23/EEC

- | | | | |
|-----------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> EN 60955 | Safety requirements for mains operated electronic and related apparatus for household and similar general use | <input type="checkbox"/> EN 60956 | Safety for information technology equipment including electrical business equipment |
| <input type="checkbox"/> EN 60335 | Safety of household and similar electrical appliances | <input type="checkbox"/> EN 50081-1 | General and Safety requirements for uninterruptible power systems (UPS) |

Manufacturer/Importer

Signature: Jimmy Huang

(Date)

Date: May 25, 2005

Name: Jimmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible Party Name: Gigatrend Technology Co., Ltd (U.S.A.)

Address: 17358 Railroad Street
 City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

Model Number: XP-P5CM-GV/XP-P5CM-GL

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a),
 Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any interference received, including that which may cause undesired operation.

Representative Person's Name: ERIC LI

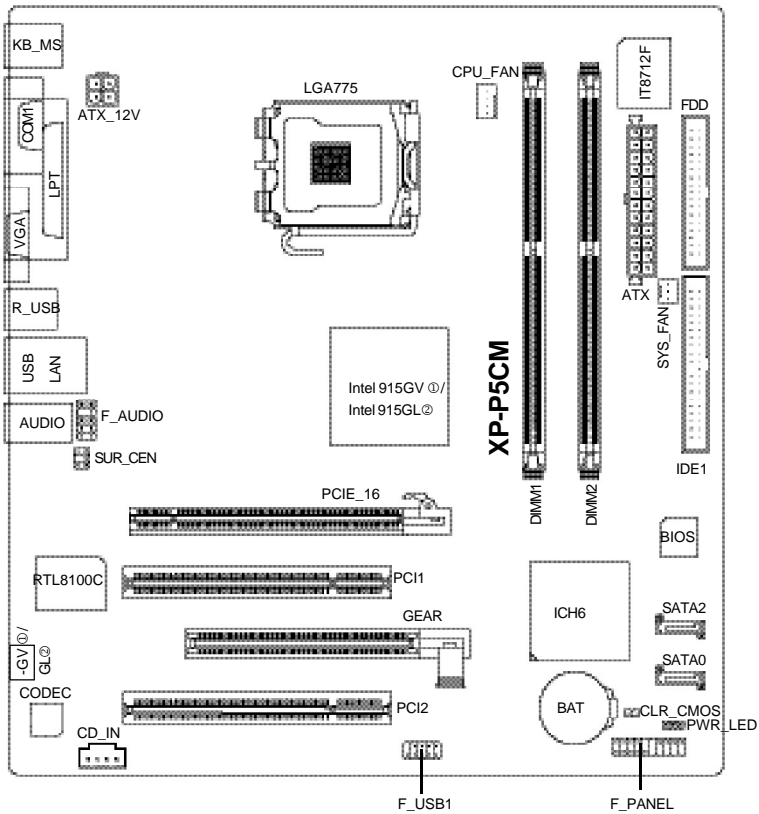
Signature: ERIC LI

Date: May 25, 2005

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Motherboard Layout



① Only for XP-P5CM-GV. ② Only for XP-P5CM-GL.

1. Product Introduction

The user manual provides steps related to quick installation. If you wish to view complete product information, please select the , open User Manual button located on the driver CD or link to our website at <http://www.axper.com> to receive the most up-to-date information.

1.1. Feature Summary

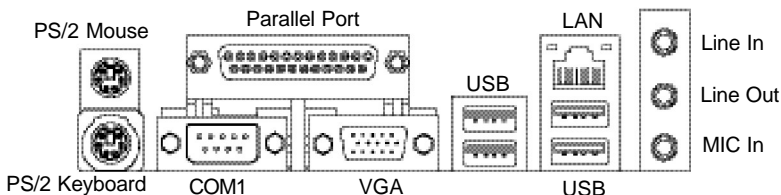
CPU	LGA775 for Intel®Pentium®4 Processor Intel®Pentium®4 533/800MHz FSB L2 cache depends on CPU
Chipset	North Bridge: Intel® 915GV ¹ /GL ² South Bridge: Intel® ICH6
Memory	2 184-pin DDR DIMM sockets, supports up to 2GB DRAM (Max.) Supports dual channel DDR400/DDR333 DIMM Supports only 2.5V DDR SDRAM
Slots	1 PCI Express x 16 slot device support * 1 GEAR slot device support 2 PCI slots support 33MHz & PCI 2.2 compliant
On-Board IDE	1IDE controller provides IDE HDD/CD-ROM with PIO, Bus Master (Ultra DMA33/ATA66/ATA100) operation modes Can connect up to 2 IDE devices
On-Board Floppy	1 Floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88M bytes
On-Board SATA	2 Serial ATA ports
On-Board Peripherals	1 Parallel port supports Normal/EPP/ECP mode 1 Serial port (COM1), 1 VGA port 6 USB 2.0/1.1 ports (4 x Rear, 2 x Front by cable) 1 Front Audio connector 1 PS/2 Keyboard 1 PS/2 Mouse
On-Board LAN	Built-in RTL8100C chip 1 RJ45 port
On-Board VGA	Built-in Intel® 915GV ¹ /GL ² chipset
On-Board Sound	ALC655 CODEC Supports 2/4/6 channel Line Out / Line In / Mic In CD In
BIOS	Licensed AWARD BIOS Supports BIOSNow!
I/O Control	IT8712F
Hardware Monitor	CPU/System fan revolution detect CPU/System fan fail warning CPU temperature detect System voltage detect
Form Factor	Micro ATX size form factor, 23.6cm x 24.3cm

* PCI Express x 16 card runs up to x 4 mode

¹ Only for XP-P5CM-GV. ² Only for XP-P5CM-GL.

1.2. I/O Back Panel and Connectors&Jumper Setting

1.2.1. I/O Back Panel

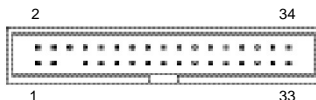


PS/2 Keyboard	Connects PS/2 standard keyboard and PS/2 standard mouse
PS/2 Mouse connector	Connects PS/2 standard keyboard and PS/2 standard mouse
Parallel port (LPT)	Connects to printer
COM1 (Serial port)	Connects to serial-based mouse or data processing devices
VGA port	Connects to 15-pin D-Sub device such as a monitor
USB (Universal Serial Bus Port)	Prior to use, please make sure that your system as well as the connected attachments support the USB interface. If driver installation is required, please consult the USB section of the user manual.
LAN (RJ45 LAN Port)	Internet connection with speed of up to 10/100Mbps
Line In	Connects to optical devices, CD players and other audio input devices
Line Out	Connects to speakers or headphones
MIC In	Connects to microphone

1.2.2. Connectors&Jumper Setting

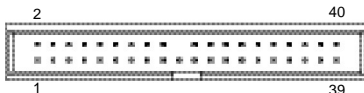
FDD (Floppy Disk Drive Connector)

The FDD connector is able to connect a single floppy disk drive via a FDD cable. Usually one edge of the FDD cable is marked in red, please attach this marked edge to position 1 on the connector.



IDE (IDE Connector)

The IDE connector is able to connect two IDE devices via an IDE cable and requires checking of the IDE jumper setting.



CPU_FAN (CPU Fan Power Connector); SYS_FAN (System Fan Power Connector)

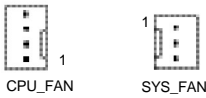
The cooler fan power connector supplies a +12V power voltage via a 3-pin/4-pin(only for CPU_FAN) power connector and possesses a full-proof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

Please remember to connect the power to the cooler to prevent system overheating and failure.

Caution!

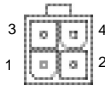
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.



PIN	SIGNAL
1	GND
2	+12V
3	Sense
4	Speed Control (Only for CPU_FAN)

ATX_12V (+12V Power Connector)

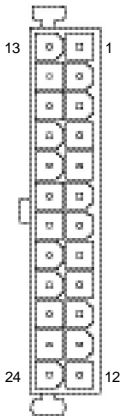
The ATX_12V power connector provides power to the CPU. If this connector is not Attached, the system will not start.



PIN	SIGNAL
1	GND
2	GND
3	+12V
4	+12V

ATX (ATX Power Connector)

The ATX power connector provides power to the motherboard. Prior to connection, please make sure that the power supply is disconnected.



PIN	SIGNAL	PIN	SIGNAL
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON (soft on/off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	-5V
9	5V SB (stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	3.3V (only for 24-pin ATX)	24	GND

PWR_LED

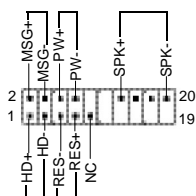
Connects to the system power LED indicator whereby the power is indicated as ON or OFF. However, the indicator will flash when the system is suspended.



PIN	SIGNAL
1	MPD+
2	MPD-
3	MPD-

F_PANEL (Front Panel Control Connector)

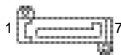
The F_Panel Control Connector connects to certain connectors on the front panel of the system casing such as IDE Hard Disk Active LED, speaker, reset, and power on/off connectors. You can use the schematic diagram below as the basis for connection.



PIN	SIGNAL
HD	IDE Hard Disk Active LED
SPK	Speaker Connector
RES	Reset Switch
PW	Soft Power Connector
MSG	Message LED/Power/Sleep LED
NC	NC

SATA0/SATA2 (Serial ATA Connector, controlled by ICH6)

The SATA0/2 connector is able to connect a single Serial ATA device via a SATA cable. For the connected SATA hard disk to work correctly, please check the related BIOS setting and install proper driver for the SATA controller.



PIN	SIGNAL	PIN	SIGNAL
1	GND	5	RXN
2	TXP	6	RXP
3	TXN	7	GND
4	GND		

F_AUDIO (Front Audio Connector)

Connects to the audio connector located on the front panel of the system casing (dependent on case design). When use of the front panel audio connector is required, please remove the 5-6 pin, 9-10 pin jumper.

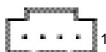
Please note that use of only the front panel audio connector or the rear panel audio connector is permitted.



PIN	SIGNAL	PIN	SIGNAL
1	MIC	6	Rear Audio (R)
2	GND	7	Reserved
3	MIC_BIAS	8	NO PIN
4	POWER	9	Front Audio (L)
5	Front Audio (R)	10	Rear Audio (L)

CD_IN (Optical Drive Audio Connector)

Connects CD-ROM or DVD-ROM audio connector.



PIN	SIGNAL
1	CD_L
2	GND
3	GND
4	CD_R

F_USB1 (Front USB Connector)

Connects to the USB connector located on the front panel of the system casing (dependent on case design). Note: Please make sure that each USB connection matches its designated position. If connections are made incorrectly, the result can lead to inability to use the function or even damage.



PIN	SIGNAL	PIN	SIGNAL
1	POWER	6	USB Dy+
2	POWER	7	GND
3	USB Dx-	8	GND
4	USB Dy-	9	NO PIN
5	USB Dx+	10	NC

SUR_CEN (Surround Center Connector)

Please contact the place of purchase for the optional SUR_CEN cable.



PIN	SIGNAL
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT

CLR_CMOS (Clear CMOS)

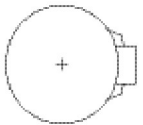
You can clear the motherboard CMOS with the jumper to return your system to its initial status. To prevent improper usage, the jumper does not include the jumper plug. If you wish to use the Clear CMOS function, please short circuit the 1-2 Pin.

1 Open : Normal

1 Short : Clear CMOS

BAT(Battery)

The improper removal of the battery can result in harm. When replacing a battery, please make sure you use one that is of similar brand and model number.



For information related to battery specifications and precautions, please refer to the manufacturer instructions.

If you wish to delete the data stored in the CMOS, please follow the steps below:

1. Please turn off your computer and unplug the power.
2. Remove the battery from the motherboard.
3. Wait 10 minutes and then replace the battery onto the motherboard.
4. Plug in the power supply and turn on your system.

2. Hardware Installation



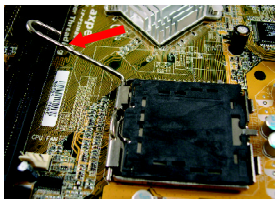
1. Please make sure that the CPU used is supported by your motherboard.
2. Please be aware of the placement position of the CPU. If the CPU does not insert properly, do not apply force but check the placement position.
3. Please make sure that an even layer of heat sink paste is added between the CPU and the fan sink.
4. Please do not turn on the power prior to installing the fan sink. Doing so can result in overheating and lead to permanent damage to the CPU.
5. Please follow the CPU specifications when setting the frequency. It is not recommended that system speed settings exceed that of hardware specifications. If you wish to set your system speed to exceed the recommended specifications, please check your hardware specifications eg: CPU, graphics card, memory, hard drive

The following must be supported to allow the use of Hyper-Threading Technology:

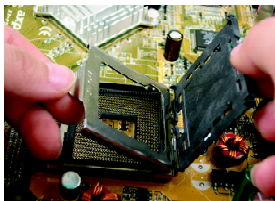
- an Intel Pentium 4 CPU with HT
- a motherboard supporting HT
- HT selection feature within BIOS
- an operating system supporting HT

2.1. Installation of a LGA775 Pentium 4 CPU and Fan Sink

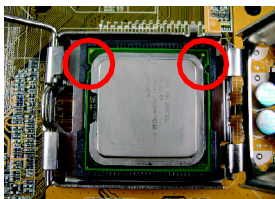
2.1.1. Installation of a LGA775 CPU



1. Push the socket lever arm down and away from the CPU socket and raise it up completely.



2. Open the load plate and gently remove the plastic cover.

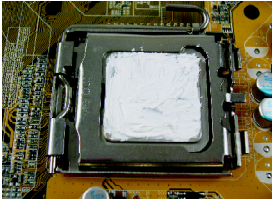


3. Hold the CPU with your thumb and index fingers (do not touch the bottom of the CPU when holding it). Align notches on the two sides of the CPU with the small sockets of the CPU socket and place the CPU straight down.

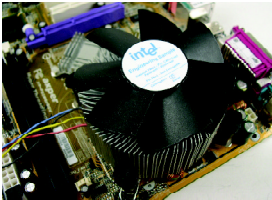


4. Make sure the CPU is properly installed and then close the load plate. Lower the socket lever and engage it to lock the CPU in place.

2.1.2. Installation of Fan Sink



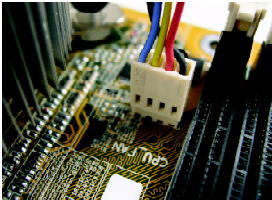
1. Apply a thin coating of thermal paste to completely cover the surface of the CPU.



2. Align the four fasteners of the fan sink with the four holes around the CPU socket. Push down each fastener and you should hear a "click" when the fastener is attached. Make sure the four fasteners are attached securely.

NOTE

Prior to installation of the fan sink, check the direction of each fastener by the arrow engraved on fastener top. Before attaching the fasteners, turn each fastener clockwise. To uninstall the fan sink, release each fastener by rotating the fastener along the direction of the arrows and pull them up.



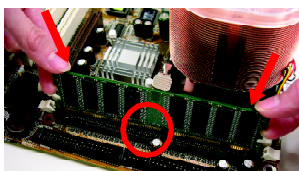
3. Connect the 4-wire power cable of the fan sink to the CPU_FAN header on the motherboard to complete the installation.

2.2. Installation of Memory

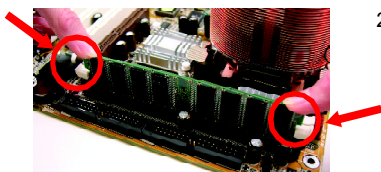


1. Before installing or removing memory, please make sure that the computer power is turned off to prevent hardware damage.
2. Please make sure that the memory used is supported by the motherboard.
3. Memory modules have a foolproof insertion design. The memory can be installed only when facing the correct position. If you cannot insert the module, please switch directions.
4. It is recommended that memory of similar capacity, specifications and brand be used.

The motherboard supports DIMM memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction.



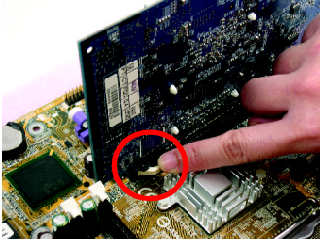
1. Unfasten the clips on each end of the memory slots. Correctly align the memory module in the slot and push downwards..



2. Once the memory module is correctly inserted, the clips will automatically refasten. If the memory module is positioned in the wrong direction, it will not insert. If this occurs, please switch directions.

2.3. Installation of the Graphics Card

1. Before installing the graphics card, please carefully read the accompanying user manual. As well, make sure the computer power is turned off.
2. If you install a PCI Express x 16 card and wish to remove it, please gently press the latch to release the card as the picture below shows before removal.



NOTE To install or remove an AGP graphics card, first pull out the white GEAR knob before insertion or removal. Releasing the GEAR knob will hold the graphics card firmly in place.

2.4. What is Axper's G.E.A.R.?

The revolutionary and innovative G.E.A.R. (GIGABYTE Enhance AGP Riser) interface provides an additional interface for traditional AGP Graphics card on Intel chipset based PCI Express solution motherboard. It supports most of the AGP Graphics card available in the market from AGP 4X to AGP 8X graphics cards.

Note the following Information Before Use

- 1) Remove the sticker on the G.E.A.R. slot before inserting your AGP graphics card.
- 2) G.E.A.R. interface is designed to provide a temporary AGP solution before the mass availability of PCI Express graphics card. It is suggested to use PCI Express X 16 interface graphics card to avoid the damage of your AGP graphics card.
- 3) G.E.A.R. interface is created through PCI interface signal and voltage switching to AGP interface, due to this technical specification difference, it might cause AGP graphics card life-span shortens.
- 4) Please view the graphics cards support list currently validated by Axper engineers.

2.4.1. Graphics Card Support List

(The items below are all supported under the Windows XP operating system. When using an add-on graphics card, please first delete the onboard graphics driver before installing the driver for the add-on graphics card.)

Figure 1-1. 4X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GA-620
	Gigabyte	GA-622
	Gigabyte	GA-660 Plus
	Gigabyte	GA-GF2560
	Gigabyte	GA-GF2000
	Gigabyte	GA-GF1280

To be continued...

Figure 1-2. 4X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GV-GF2010D
	Gigabyte	GA-GF3000D
	Gigabyte	GV-GF1280-32E
	Gigabyte	GV-GF1280T-32P
	Gigabyte	GV-GF3200TF
	Gigabyte	GV-GF3500TF-GH
	ELSA	Gladiac Ultra
	ELSA	Gladiac 517
	ELSA	Gladiac 517vivo
	ELSA	Gladiac 525 A128
	Leadtek	WinFast A170 TH
	Leadtek	WinFast A250 TO
	Leadtek	WinFast A250 Ultra
ATI	Gigabyte	GV-AR64DL-T-SI
	Gigabyte	GV-AR64S-H
	Gigabyte	GV-AP64D
	Gigabyte	GV-AP64DH
	Gigabyte	GV-AP128DG-H
	Gigabyte	GV-AF128D-GH
SiS	Prolink	SiS315 64MB
Savage	ASUS	V3500

Figure 2. 8X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GV-N57L128D
	Gigabyte	GV-N59X128D
	ASUS	V9180TD
	ASUS	V9480-TVD
	ASUS	V9520
	MSI	MX440-VTD8X MS-8888
	MSI	Ti4600-TD-8X
	Leadtek	WinFast A280LE TD
	Leadtek	WinFast A310 TD
	Albatron	NVIDIA 5950
	ATI	Gigabyte
Gigabyte		GV-R9700
Gigabyte		GV-R9500
Gigabyte		GV-R9200C3
Gigabyte		GV-R98P128D
Gigabyte		GV-R92P128VH
SiS	Triplex	Xabre Pro
	Power Color	Xabre 600 Pro

To be continued...

Figure 3. PCI Express x16 Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GV-NX53128D
	Gigabyte	GV-NX57128D
	Gigabyte	GV-NX59128D
	Gigabyte	GV-NX62128D
	Gigabyte	GV-NX66256D
	Gigabyte	GV-NX66T128VP
	Gigabyte	GV-NX66T128D
	Gigabyte	GV-NX68T256DH
	Gigabyte	GV-NX55128DP
	Gigabyte	GV-NX68U256D
	Gigabyte	GV-NX62TC256D
ATI	ASUS	EN6600/TD/128
	Gigabyte	GV-RX30S128D
	Gigabyte	GV-RX60P128D
	Gigabyte	GV-RX60X128V
	Gigabyte	GV-RX70128D
	Gigabyte	GV-RX70P128D
	Gigabyte	GV-RX80T256V
	Gigabyte	GV-RX80L256V
	Gigabyte	GV-RX80256D
	ASUS	AX800XT
ASUS	AX700PRO	
MSI	RX600 XT-TD128	

For the most up-to-date information related to graphics card support, please link to our website at <http://www.axper.com>

3. BIOS Setup

BIOS (Basic Input and Output System) stores all the information of the motherboard settings that is needed for system initiation within the CMOS. The CMOS SETUP utility allows the user to make changes in BIOS configurations that are required or to activate certain features. The CMOS SETUP saves each item configuration in the CMOS SRAM of the motherboard. When the power is turned off, the battery on the motherboard supplies the required power to the CMOS SRAM.

When the power is turned on, pushing the button during the BIOS POST (Power-On Self Test) will bring up the CMOS SETUP screen. If you wish to enter the BIOS setup, please press "Ctrl + F1" at the BIOS setup screen.

When using BIOS setup for the first time, it is recommended that you save the present BIOS onto a disk in case you need to reset the BIOS back to its original settings. If you wish to update to a new BIOS, the "BIOSNow!" can be used.

The user can select "BIOSNow!" as a way to quickly and easily update or back up BIOS without entering the operating system.

3.1. Setup Screen Features (BIOS version:F1)

- ※ When you enter the CMOS SETUP screen, you will see the following screen and setting selections as shown below.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software	
<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status ▶ Frequency/Voltage Control 	<ul style="list-style-type: none"> Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
ESC: Quit	↑↓→←: Select Item
F8: BIOSNow!	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Instructions

- <↑, ↓, ←, →, Enter> Movement in all four directions to highlight a desired option, pressing <Enter> will select the option and take you to its appropriate screen
- <Page Up, Page Down> Used to toggle up and down the available options for a particular item, whereby <Page Up> can also be used to increase value option and <Page Down> to decrease value option
- <Esc> Return to main setup screen or exit setup
- <F1> Gives the list of options available for each item
- <F2> Gives the list of options available for the current item
- <F5> Returns settings to previous values (not applicable to main setup screen)

<F6>	Gives the list of options available for each item
<F7>	Return to Optimized default values (not applicable to main setup screen)
<F8>	Enters BIOSNow! feature
<F9>	Displays system information
<F10>	Saves settings and exits setup

3.2. Standard CMOS Features

※ Includes the settings for items such as date, time, floppy disk drive specifications, and hard drives connected to the IDE interface.

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Standard CMOS Features

Date (mm:dd:yy)	Fri, Jan 9 2005	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level▶ Change the day, month, year
▶ IDE Channel 0 Master	[None]	<Week> Sun. to Sat.
▶ IDE Channel 0 Slave	[None]	<Month> Jan. to Dec.
▶ IDE Channel 2 Master	[None]	<Day> 1 to 31 (or maximum allowed in the month)
▶ IDE Channel 2 Slave	[None]	<Year> 1999 to 2098
Drive A	[1.44M, 3.5"]	
Drive B	[None]	
Floppy 3 Mode Support	[Disabled]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	127M	
Total Memory	128M	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

■ Date (mm:dd:yy)

Allows you to setup the date in the mm:dd:yy fashion.

■ Time (hh:mm:ss)

Allows you to set up the date in the hh:mm:ss fashion. The time must be entered in the 24-hour format.

■ IDE Channel 0 Master(Slave) [IDE Device Setup]

IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

IDE Channel 0 Master(Slave) You can use one of three methods:

Auto Allows BIOS to automatically detect IDE devices during POST(default)

None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.

Manual User can manually input the correct settings

Access Mode Use this to set the access mode for the hard drive. The four options are:CHS/LBA/Large/Auto(default:Auto)

■ IDE Channel 2 Master(Slave)

[IDE Device Setup]

IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

Extended IDE Drive You can use one of two methods:

Auto Allows BIOS to automatically detect IDE devices during POST(default)
 None Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.

Access Mode Use this to set the access mode for the hard drive. The two options are:Large/Auto(default:Auto)

Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.

■ Drive A/B

Allows user to configure the type of floppy drive his/she installs.

Options: None (No floppy drive installed)
 360K, 5.25" (5.25 inch PC-type high-density drive; 360K bytes capacity.)
 1.2M, 5.25" (5.25 inch AT-type high-density drive; 1.2M bytes capacity.)
 720K, 3.5" (3.5 inch double-sided drive; 720K bytes capacity.)
 1.44M, 3.5" (3.5 inch double-sided drive; 1.44M bytes capacity.)
 2.88M, 3.5" (3.5 inch double-sided drive; 2.88M bytes capacity.)

■ Floppy 3 Mode Support

Allows user to configure a Japanese standard 3 Mode floppy drive.

Options: Disabled (No 3 Mode drive installed)
 Drive A (3 Mode Drive installed in A:)
 Drive B (3 Mode Drive installed in B:)
 Both (3 Mode Drive installed in A: and B:)

■ Halt on

Tells the BIOS specifically which types of errors will halt the computer during the power-on self test (POST) section of the boot.

Options: No Errors (Never halt when an error is detected)
 All Errors (Halt whenever an error is detected)
 All, But Keyboard (Halt whenever an error is detected with the exception of the keyboard)
 All, But Diskette (Halt whenever an error is detected with the exception of the diskette)
 All, But Disk/Key (Halt whenever an error is detected with the exception of the diskette and keyboard) (default:All, But Keyboard)

■ Memory

When BIOS is displayed during POST, memory capacity is also displayed as shown below:

Base Memory, Extended Memory, Total Memory (the user can verify the accuracy of these values)

3.3. Advanced BIOS Features

- ※ Allows the configuration of advanced settings such as boot sequence, password check, etc.

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Advanced BIOS Features

▶ Hard Disk Boot Priority	[Press Enter]	Item Help
First Boot Device	[Floppy]	Menu Level▶
Second Boot Device	[USB-FDD]	
Third Boot Device	[Hard Disk]	Select Hard Disk Boot Device Priority
Password Check	[Setup]	
CPU Hyper-Threading#	[Enabled]	
Limit CPUID Max. to 3	[Disabled]	
No-Execute Memory Protect ^(Note)	[Enabled]	
CPU Enhanced Halt (C1E) ^(Note)	[Enabled]	
CPU Thermal Monitor 2(TM2) ^(Note)	[Enabled]	
CPU EIST Function ^(Note)	[Enabled]	
On-Chip Frame Buffer Size	[8MB]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

" # " If the installed CPU is an Intel Pentium 4 CPU supporting Hyper-Threading Technology, the system will automatically provide this option.

■ Hard Disk Boot Priority

The user can select the boot order for hard disks connected to onboard IDE, SATA, SCSI, RAID controllers or other add-on cards.

■ First / Second / Third Boot Device

The user can select the order in which the system will boot.

Options: Floppy, LS120, Hard Disk, CDROM, ZIP,USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled

■ Password Check

Allows user to set a password. To remove the password entry requirement, enter SETUP and make sure there is no entry and then press <Enter>.

Options: System (Password entry is required during system start up and to enter CMOS SETUP)
Setup (Password entry is required to enter CMOS SETUP)(default:Setup)

■ CPU Hyper-Threading

Allows user to enable the CPU Hyper-Threading function, of which must also be supported by the operating system. (default: Enabled)

■ Limit CPUID Max. to 3

This option will be available when you install an Intel Prescott processor. Enable this item when you install old operating systems (example:NT 4.0) (default: Disabled)

(Note) If the installed CPU supports this function, the system will automatically provide this option.

- **No-Execute Memory Protect**^(Note)
Allows user to enable the No-Execute Memory Protect function. (default: Enabled)
- **CPU Enhanced Halt (C1E)**^(Note)
Allows user to enable the CPU Enhanced Halt (C1E) function. (default: Enabled)
- **CPU Thermal Monitor 2(TM2)**^(Note)
Allows user to enable the CPU Thermal Monitor 2(TM2) function.(default: Enabled)
- **CPU EIST Function**^(Note)
Allows user to enable the CPU EIST function.(default: Enabled)
- **On-Chip Frame Buffer Size**
Allows user to set the size of the on-chip frame buffer.
Options: 1MB/4MB/8MB/16MB/32MB (default:8MB)

3.4. Integrated Peripherals

- ※ This menu allows you to control the various ports of the computer such as IDE, SATA, USB, IEEE1394, COM port, LPT port, AC97 audio, etc.

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Integrated Peripherals

		Item Help
	On-Chip Primary PCI IDE	[Enabled]
	On-Chip SATA Mode	[Enhanced]
x	PATA IDE Set to	Ch.0 Master/Slave
	SATA Port 0/2 Set to	Ch.2 Master/Slave
	USB Controller	[Enabled]
	USB 2.0 Controller	[Enabled]
	USB Keyboard Support	[Disabled]
	USB Mouse Support	[Disabled]
	AC97 Audio	[Auto]
	Onboard H/W LAN	[Enabled]
	OnBoard LAN Boot ROM	[Disabled]
	Onboard Serial Port 1	[3F8/IRQ4]
	Onboard Parallel Port	[378/IRQ7]
	Parallel Port Mode	[SPP]
x	ECP Mode Use DMA	3
		Menu Level▶ If a hard disk controller card is used, set at Disabled
		[Enabled] Enable onboard IDE PORT
		[Disabled] Disable onboard IDE PORT

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- **On-Chip Primary PCI IDE**
Allows the user to enable or disable the first onboard IDE channel.
(default:Enabled)
- **On-Chip SATA Mode**
Options: Disabled (Disable this function.)
Auto (BIOS will detect automatically)
Combined (Support up to 4 hard drives: Two for SATA ports and two for PATA IDE ports)
Enhanced (Allow up to 4 hard drives to be used)
Non-Combined (SATA will be configured to PATA mode)(default:Enhanced)

(Note) If the installed CPU supports this function, the system will automatically provide this option.

- **PATA IDE Set to**
Options: Ch.0 Master/Slave, Ch.1 Master/Slave (default:Ch.0 Master/Slave)
- **SATA Port 0/2 Set to**
This value depends on the settings of "On-Chip SATA Mode" and "PATA IDE Set to". For example, if you set PATA IDE to Ch. 1 Master/Slave, this option will be automatically set to Ch. 0 Master/Slave.
- **USB Controller**
Allows the user to enable or disable the onboard USB controller. (default:Enabled)
- **USB 2.0 Controller**
Allows the user to enable or disable the onboard USB2.0 (default:Enabled)
- **USB Keyboard Support**
Allows user to use a USB-based keyboard (Enable if you are using a USB keyboard, otherwise Disable) (default:Disabled)
- **USB Mouse Support**
Allows user to use a USB-based mouse (Enable if you are using a USB mouse, otherwise Disable) (default:Disabled)
- **AC97 Audio**
Allows the user to use the onboard AC97 audio (default:Auto)
- **Onboard H/W LAN**
Allows the user to enable or disable the onboard LAN (default:Enabled)
- **OnBoard LAN Boot ROM**
Allows user to enable or disable booting from a network drive (default:Disabled)
- **Onboard Serial Port 1**
Allows the user to enable or disable the first onboard serial port
Options: Auto, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled (default:3F8/IRQ4)
- **Onboard Parallel Port**
Allows the user to enable or disable the onboard parallel port.
Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled (default:378/IRQ7)
- **Parallel Mode**
Use this to select the operation mode for the parallel port.
Options: SPP, EPP, ECP, EPP+ECP (default:SPP)
- **ECP Mode Use DMA**
Allows the user to select the ECP Mode Use DMA
Options: 1, 3, Disabled (default:3)

3.5. Power Management Setup

※ This is used to control the various power saving features of the PC.

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Power Management Setup

ACPI Suspend Type	[S1(POS)]	Item Help
Soft-Off by PWR-BTTN	[Instant-Off]	Menu Level▶
PME Event Wake Up	[Enabled]	[S1]
ModemRingOn	[Enabled]	Set suspend type to
Resume by Alarm	[Disabled]	Power On Suspend under
x Date (of Month) Alarm	Everyday	ACPI OS
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
Power On by Mouse	[Disabled]	[S3]
Power On by Keyboard	[Disabled]	Set suspend type to
x KB Power ON Password	Enter	Suspend to RAM under
AC BACK Function	[Soft-Off]	ACPI OS
<p>↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults</p>		

■ **ACPI Suspend Type**

Allows user to select the Advanced Configuration and Power Interface(ACPI) as S1/ POS (Power On Suspend) or S3/STR(Suspend To RAM) (default:S1/POS)

■ **Soft-Off by PWR-BTTN**

Controls whether the PC shuts off immediately after hitting the power button or delaying a few seconds. (default:Instant-Off)

Options: Instant-off (PC shuts off immediately)
 Delay 4 Sec. (PC shuts off after a 4-sec. delay)

■ **PME Event Wake Up**

Allows user to select the Power Management Event (PME) wake up function which requires the system to have a +5VSB power supply using a rate of 1A or less. (default:Enabled)

■ **ModemRingOn**

To use this feature, an Ethernet card supporting the PCI2.2 or newer standard must be used. (default:Enabled)

■ **Resume by Alarm**

If set to Enabled, the user can set the date and time for automatic system power-on. (default:Disabled)

Settings:

Date (of Month) Alarm : Everyday, 1~31
Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

■ **Power On by Mouse**

Allows user to turn on system using the mouse. (default:Disabled)

■ **Power On By Keyboard**

Allows user to turn on system using the keyboard. (default:Disabled)

■ KB Power ON Password

Allows user to set a 1-5 character long password for powering on the keyboard. Select Enter to complete setting.

■ AC BACK Function

Allows user to select system status when power is removed and returned.

- Options: Memory (return prior to power removal)
 Full-On (return to full system power)
 Soft-Off (use of Soft PWR button to power on system)(default:Soft-Off)

3.6. PnP/PCI Configuration

- ※ This menu allows you to configure your PCI slots. You can assign IRQ's for various PCI slots.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
 PnP/PCI Configurations

PCI 1 IRQ Assignment	[Auto]	Item Help Menu Level▶ Device(s) using this INT: Simple COMM. Cntrl - Bus 0 Dev30 Func 3
PCI 2 IRQ Assignment	[Auto]	
PCI 3 IRQ Assignment	[Auto]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

■ PCI 1 IRQ Assignment

Allows you to assign an IRQ for the first PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)

■ PCI 2 IRQ Assignment

Allows you to assign an IRQ for the second PCI slot. Options: Auto,3,4,5,7,9,10,11,12, 14,15 (default:Auto)

■ PCI 3 IRQ Assignment

Allows you to assign an IRQ for the third PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)

3.7. PC Health Status

- ※ This menu displays the current CPU temperature, the fan speeds, voltages etc.

CMOS Setup Utility-Copyright (C) 1984-2005 Award Software
PC Health Status

Vcore	OK	Item Help
DDR25V	OK	Menu Level▶
+3.3V	OK	
+12V	OK	
Current CPU Temperature	45°C	
Current CPU FAN Speed	4440 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	
CPU Smart FAN Control	[Enabled]	
CPU Smart FAN Mode	[Auto]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

■ Current Voltage(V) Vcore / DDR25V / +3.3V / +12V

Automatically checks system voltage

■ Current CPU Temperature

Automatically checks CPU temperature

■ Current CPU / SYSTEM FAN Speed (RPM)

Automatically checks CPU/SYSTEM fan speed

■ CPU Warning Temperature

If CPU temperature exceeds the temperature users select, alarm will occur. (default: Disabled)

Options: 60°C / 140°F
 70°C / 158°F
 80°C / 176°F
 90°C / 194°F
 Disabled

■ CPU / SYSTEM FAN Fail Warning

Allows users to enable or disable the CPU/System Fan Fail Warning function. (default: Disabled)

■ CPU Smart FAN Control

Allows users to enable or disable the CPU Smart FAN Control function. (default: Enabled) With this item set to enabled, CPU fan changes speed depending on CPU temperature.

■ CPU Smart FAN Mode

Allows users to set the CPU Smart FAN mode when CPU Smart FAN Control is set to Enabled. (default: Auto)

Options: Auto (BIOS autochecks which type of CPU fan is installed and sets the optimal CPU Smart FAN control mode.)

Voltage (Set this item to Voltage if a 3-pin CPU fan is installed.)

PWM (Set this item to PWM if a 4-pin CPU fan is installed.)

Note: In fact, you can set the CPU Smart Fan Control mode to Voltage for either 3-pin or 4-pin CPU fan. However, for those 4-pin CPU fans that are not designed following Intel's 4-wire fans PWM control specifications, setting the CPU Smart Fan Control mode to PWM may not effectively reduce the CPU fan speed.

3.8. Frequency/Voltage Control

- ✗ This allows user to configure CPU frequency and voltage settings.

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Frequency/Voltage Control

CPU Clock Ratio	[15X]	Item Help
Memory Frequency For	[Auto]	Menu Level▶
Memory Frequency (Mhz)	266	Set CPU Ratio if CPU Ratio is unlocked
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

■ CPU Clock Ratio

Allows user to set the CPU Clock Ratio.

If the CPU used locks this feature, then it will not be displayed or will not function. (based on CPU type)

■ Memory Frequency For

for FSB(Front Side Bus) frequency=533MHz,

2.50 Memory Frequency = Host clock X 2.50.

3.00 Memory Frequency = Host clock X 3.00.

4.00 Memory Frequency = Host clock X 4.00.

Auto Set Memory frequency by DRAM SPD data.

for FSB(Front Side Bus) frequency=800MHz,

1.66 Memory Frequency = Host clock X 1.66.

2.00 Memory Frequency = Host clock X 2.00.

2.66 Memory Frequency = Host clock X 2.66.

Auto Set Memory frequency by DRAM SPD data.

■ Memory Frequency (Mhz)

The memory frequency is based on the " Memory Frequency For" setting.

3.9. Load Fail-Safe Defaults

- ※ Use this option to reset your BIOS settings to the system defaults. You should only use this if you are encountering serious problems.
Please select <Y> and <Enter> to load Fail-Safe defaults. Once this is loaded, your system may be slowed since this uses a minimal performance setting to allow stable system running.

3.10. Load Optimized Defaults

- ※ Like the Fail-Safe mode above, this option loads the BIOS default settings, but runs the system at optimal performance.
Please select <Y> and <Enter> to load optimized defaults.

3.11. Set User Password

- ※ Use this to set the password that is needed to either enter into the BIOS or to boot the system. Entering in a blank field will disable the password.
Please input an 8 character long password and then select Enter. You will be required to re-enter the password for confirmation. If you wish to remove the need for password entry, leave the entry blank and then select Enter. BIOS will then display "PASSWORD DISABLED". Once you have completed the password setting, you will need to go to "Advanced BIOS Features" and select "Password Check" for setup of password check.

3.12. Save & Exit Setup

- ※ To save any changes you made to the BIOS you must choose this option. The system will automatically exit setup and perform a system restart. Pushing <F10> will have the same effect.
Push <Y> and <Enter> to save and exit setup. If you do not wish to save, select <N> or <Esc> to return to the main menu.

3.13. Exit Without Saving

- ※ Use this option instead of the one above if you wish to exit the BIOS without saving the changes you have made. Pushing <ESC> will have the same effect.
Push <Y> and <Enter> to exit setup. You can return to the main menu by pushing <N> or <Esc>.

4. Driver Installation

Driver installation for the Windows 2000/XP operating systems is simple. Once you insert the provided driver disks into your optical drive, the AUTORUN screen will appear. If this screen does not appear, you can use "D:\setup.exe" (with "D" being the specified drive) to bring up the screen shown below. Just follow the screen instructions to easily complete driver installation.

